

* * * * * Welcome to STN International * * * * *

<u>NEWS 1</u>		Web Page URLs for STN Seminar Schedule - N. America
<u>NEWS 2</u>	Sep 17	IMSworld Pharmaceutical Company Directory name change to PHARMASEARCH
<u>NEWS 3</u>	Oct 09	Korean abstracts now included in Derwent World Patents Index
<u>NEWS 4</u>	Oct 09	Number of Derwent World Patents Index updates increased
<u>NEWS 5</u>	Oct 15	Calculated properties now in the REGISTRY/ZREGISTRY File
<u>NEWS 6</u>	Oct 22	Over 1 million reactions added to CASREACT
<u>NEWS 7</u>	Oct 22	DGENE GETSIM has been improved
<u>NEWS 8</u>	Oct 29	AAASD no longer available
<u>NEWS 9</u>	Nov 19	New Search Capabilities USPATFULL and USPAT2
<u>NEWS 10</u>	Nov 19	TOXCENTER(SM) - new toxicology file now available on STN
<u>NEWS 11</u>	Nov 29	COPPERLIT now available on STN
<u>NEWS 12</u>	Nov 29	DWPI revisions to NTIS and US Provisional Numbers
<u>NEWS 13</u>	Nov 30	Files VETU and VETB to have open access
<u>NEWS 14</u>	Dec 10	WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
<u>NEWS 15</u>	Dec 10	DGENE BLAST Homology Search
<u>NEWS 16</u>	Dec 17	WELDASEARCH now available on STN
<u>NEWS 17</u>	Dec 17	STANDARDS now available on STN
<u>NEWS 18</u>	Dec 17	New fields for DPCI
<u>NEWS 19</u>	Dec 19	CAS Roles modified
<u>NEWS 20</u>	Dec 19	1907-1946 data and page images added to CA and Cplus
<u>NEWS 21</u>	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
<u>NEWS 22</u>	Jan 25	Searching with the P indicator for Preparations
<u>NEWS 23</u>	Jan 29	FSTA has been reloaded and moves to weekly updates
<u>NEWS 24</u>	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
<u>NEWS 25</u>	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
<u>NEWS 26</u>	Mar 08	Gene Names now available in BIOSIS
<u>NEWS 27</u>	Mar 22	TOXLIT no longer available
<u>NEWS 28</u>	Mar 22	TRCTHERMO no longer available

NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002

NEWS HOURS STN Operating Hours Plus Help Desk Availability

NEWS INTER General Internet Information

NEWS LOGIN Welcome Banner and News Items

NEWS PHONE Direct Dial and Telecommunication Network Access to STN

NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 11:28:34 ON 27 MAR 2002

=> file ca

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FILE 'CA' ENTERED AT 11:28:48 ON 27 MAR 2002

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FILE COVERS 1907 - 21 Mar 2002 VOL 136 ISS 13
FILE LAST UPDATED: 21 Mar 2002 (20020321/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> s (chromic or chromous or chromate) and fluoride

15974 CHROMIC
760 CHROMOUS
26095 CHROMATE
192425 FLUORIDE

L1 1199 (CHROMIC OR CHROMOUS OR CHROMATE) AND FLUORIDE

=> 1 and (ligand or ligands)

1 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system. For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s l1 and (ligand or ligands)

209660 LIGAND
140421 LIGANDS

L2 16 L1 AND (LIGAND OR LIGANDS)

=> s l2 and replacement and kinetics

89081 REPLACEMENT
634136 KINETICS

L3 0 L2 AND REPLACEMENT AND KINETICS

=> logoff

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FULL ESTIMATED COST

ENTRY

SESSION

13.92

14.13

STN INTERNATIONAL LOGOFF AT 11:31:00 ON 27 MAR 2002

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 10:56:32 ON 27 MAR 2002

=> file ca

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FILE 'CA' ENTERED AT 10:57:14 ON 27 MAR 2002

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```
=> s (chromium(III) or cr(III) or chromous) and (zinc or zn)
MISSING OPERATOR 'CHROMIUM(III)'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
```

```
=> s (chromium adj (III) or cr adj (III) or chromous) and (zinc or zn)
MISSING OPERATOR 'ADJ (III)'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
```

```
=> s chromium(III)
MISSING OPERATOR 'CHROMIUM(III)'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
```

```
=> s chromium w III
      268963 CHROMIUM
      315848 W
      894865 III
L1      0 CHROMIUM W III
          (CHROMIUM(W)W(W)III)
```

```
=> s chromium adj III
      268963 CHROMIUM
      192 ADJ
      894865 III
L2      0 CHROMIUM ADJ III
          (CHROMIUM(W)ADJ(W)III)
```

```
=> s cr adj III
      343444 CR
      192 ADJ
```

894865 III
L3 0 CR ADJ III
(CR(W)ADJ(W)III)

=> s chromium or cr
268963 CHROMIUM
343444 CR

L4 454538 CHROMIUM OR CR

=> s 14 and (ligand or ligands)
209660 LIGAND
140421 LIGANDS

L5 10585 L4 AND (LIGAND OR LIGANDS)

=> s 15 and replacement and kinetics
89081 REPLACEMENT
634136 KINETICS.

L6 43 L5 AND REPLACEMENT AND KINETICS

=> s 16 and (chromic or chromous or chromate)
15974 CHROMIC
760 CHROMOUS
26095 CHROMATE

L7 6 L6 AND (CHROMIC OR CHROMOUS OR CHROMATE)

=> d 17 1-6 all

L7 ANSWER 1 OF 6 CA COPYRIGHT 2002 ACS

	Full Text	Citing References
AN	112:105809 CA	
TI	Oxidation of arsine by sodium dichromate in the presence of halide ions	
AU	Dorfman, Ya. A.; Polimbetova, G. S.; Mansurov, B. A.; Doroshkevich, D. M.	
CS	Inst. Org. Katal. Elektrokhim., Alma-Ata, USSR	
SO	Zh. Obshch. Khim. (1989), 59(9), 2007-12 CODEN: ZOKHA4; ISSN: 0044-460X	
DT	Journal	
LA	Russian	
CC	67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms) Section cross-reference(s): 65	
AB	The kinetics and mechanism of AsH ₃ oxidn. by Na ₂ Cr ₂ O ₇ were studied at 293 K in a flow reactor with the capacity for potentiometric measurements. The catalytic influence of H ₃ O ⁺ , Cl ⁻ , Br ⁻ , and I ⁻ was established. Reaction capacities decrease in the order CrO ₃ I ⁻ > CrO ₃ Br ⁻ > CrO ₃ Cl ⁻ . The rate-limiting step is intramol. electron transfer in Cr(AsH ₃)O ₃ X(H ₂ O) (X = Cl, Br, I) intermediate complexes. The replacement of H ₂ O at the X ligand site by halides increases the d. on Cr(VI) and retards the reaction. Effective charges on ligands in these complexes and their PH ₃ analogs were calcd. by using a CNDO method.	
ST	oxidn arsine chromate halide catalyst; quantum study chromium 6 complex; charge ligand chromium 6 complex	
IT	Oxidation catalysts (halide anions, for arsine by chromate)	
IT	Kinetics of oxidation (of arsine, by chromate , in presence of halide anions)	
IT	Electric charge (effective, on ligands in chromium (VI) arsine or phosphine complexes contg. halide ligands)	
IT	<u>16887-00-6</u> , Chloride, uses and miscellaneous <u>20461-54-5</u> , Iodide, uses and miscellaneous <u>24959-67-9</u> , Bromide, uses and miscellaneous RL: CAT (Catalyst use); USES (Uses) (catalysts, for oxidn. of arsine by sodium dichromate)	
IT	<u>120045-52-5</u> <u>120045-61-6</u> <u>120045-62-7</u> <u>120045-63-8</u> <u>120065-24-9</u> <u>125565-77-7</u> RL: RCT (Reactant)	

(**ligand** effective charges in, quantum calcn. of, intramol.
electron transfer in relation to)

IT 10588-01-9, Sodium **chromate** (Na₂Cr₂O₇)

RL: RCT (Reactant)

(oxidn. by, of arsine in presence of halide anions)

IT 7784-42-1, Arsine

RL: PRP (Properties)

(oxidn. **kinetics** of, by sodium dichromate in presence of
halide anions)

L7 ANSWER 2 OF 6 CA COPYRIGHT 2002 ACS

Full Text	Citing References
--------------	----------------------

AN 90:61842 CA

TI Mechanistic studies on the reactions of cis-diaquabismalonatochromate(III)
ion with 2,2'-dipyridyl and 1,10-phenanthroline

AU Chatterjee, C.; Basak, A. K.

CS Dep. Chem., Indian Inst. Technol., Bombay, India

SO Indian J. Chem., Sect. A (1978), 16A(9), 758-61

CODEN: IJCADU; ISSN: 0376-4710

DT Journal

LA English

CC 67-3 (Catalysis and Reaction Kinetics)

AB Kinetic studies in aq. soln. on the **replacement** of the aqua **ligands** in
cis-[Cr(Mal)₂(OH₂)₂]- by 2,2'-dipyridyl (dipy) and 1,10-phenanthroline
(phen) forming [Cr(Mal)₂(A-A)]- (A-A = dipy or phen) were made
spectrophotometrically. Hitherto unknown mixed **ligand** complexes of
Cr(III) in the form of K salts were also isolated and characterized. In
both cases the anation reaction proceeds by a path purely 1st order with
respect to the **ligand** concn. From the values of the rate consts. at 3
different temps. (at 50-70°), values of the activation parameters,
ΔH* and ΔS*, are evaluated for each system. The values of the
enthalpy of activation (ΔH*) for the present systems are fairly
close to the corresponding values for the oxalato system suggesting a
common mechanism involving outer sphere assocn. between the reacting
complex and the entering **ligand** followed by transformation of the outer
sphere complex into the product by an associative process. The results of
the isokinetic plot (ΔH* vs. ΔS*) for the analogous Cr(III)
systems are also indicative of the associative nature in the transition
state for the present systems.

ST deaquaation malonato **chromate**; dipyridyl deaquaation malonato **chromate**;
phenanthroline deaquaation malonato **chromate**

IT Deaquaation

Kinetics of deaquaation

(of **chromium** malonato complex, by dipyridyl and
phenanthroline)

IT 66-71-7 366-18-7

RL: RCT (Reactant)

(deaquaation by, of **chromium** malonato complex,
kinetics and mechanism of)

IT 18485-09-1

RL: RCT (Reactant)

(deaquaation of, by chelating agents, **kinetics** and mechanism
of)

IT 69030-48-4P 69030-49-5P

RL: PREP (Preparation)

(prepn. of)

L7 ANSWER 3 OF 6 CA COPYRIGHT 2002 ACS

Full Text	Citing References
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AN 85:131201 CA

TI Rapid equilibration of the ethylenediamine-N,N,N',N'-
tetraacetatoaquo chromate(III) complex with **chromate**(VI), molybdate(VI),
tungstate(VI), and azide. Labilization of the aquo **ligand** by the free

carboxylate and substitution at **chromium(III)**
 AU Sulfab, Yousif; Taylor, Roger S.; Sykes, A. Geoffrey
 CS Dep. Inorg. Struct. Chem., Univ. Leeds, Leeds, Engl.
 SO Inorg. Chem. (1976), 15(10), 2388-93
 CODEN: INOCAJ
 DT Journal
 LA English
 CC 67-3 (Catalysis and Reaction Kinetics)
 Section cross-reference(s): 68
 AB Equilibration kinetic studies on the rapid complexation of ethylenediamine-N,N,N',N'-tetraacetatoaquachromate(III), **Cr(edta)H₂O-**, with **CrO₄²⁻**, **MoO₄²⁻**, and **WO₄²⁻** were carried out by using the stopped-flow method at 25°, pH 7.3-8.7, and ionic strength 1.0 M (LiClO₄). **Replacement** of the coordinated H₂O, which is labilized by the free carboxylate arm of the edta, is obsd. Temp.-jump and stopped-flow studies of deaquation by N₃⁻ were also carried out at pH 4.3-5.4 and pH 7.38, resp. The hydrogen ion dependence of the forward rate const., *k_f*, is in all cases given by *k₁* + *k₂*[H⁺], where *k₂* makes ≤25% contributions with **MoO₄²⁻** (VI) and N₃⁻ and ≤10% with **CrO₄²⁻** and **WO₄²⁻**. Rate consts. *k₁* (M⁻¹ sec⁻¹) are 3.2 ± 0.2 (**CrO₄²⁻**), 21 ± 2 (**MoO₄²⁻**), 27 ± 4 (**WO₄²⁻**), and 98 ± 5 (N₃⁻). Kinetic equil. consts. *K₁* = *k_f*/*k_b* are in good agreement with those obtained spectrophotometrically.
 ST equil **chromium** EDTA deaquation; EDTA **chromium** deaquation kinetics; **chromate** deaquation EDTA **chromium**; molybdate deaquation EDTA **chromium**; tungstate deaquation EDTA **chromium**; azide deaquation EDTA **chromium**
 IT Group VIB elements
 RL: USES (Uses)
 (deaquation by anionic forms of, of **chromium** EDTA complex, kinetics and equil. of)
 IT Deaquation
 Kinetics of deaquation
 (of **chromium** EDTA complex, by azide and transition metal anions, reversible)
 IT 13907-45-4 14259-85-9 14311-52-5 14343-69-2
 RL: RCT (Reactant)
 (deaquation by, of **chromium** EDTA complex, kinetics and equil. of)
 IT 19610-17-4
 RL: RCT (Reactant)
 (deaquation of, dianions, kinetics and equil. of)

L7 ANSWER 4 OF 6 CA COPYRIGHT 2002 ACS

Full Text	Citing References
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AN 79:58177 CA
 TI Mechanistic studies on the reactions of cis-diaquobis(oxalato)**chromate**(I II) ion with 2,2'-dipyridyl and 1,10-phenanthroline
 AU Banerjea, D.; Roy, J.
 CS Dep. Chem., Univ. Coll. Sci., Calcutta, India
 SO Z. Anorg. Allg. Chem. (1973), 399(1), 115-19
 CODEN: ZAACAB
 DT Journal
 LA English
 CC 67-3 (Catalysis and Reaction Kinetics)
 Section cross-reference(s): 22
 AB The kinetics of the replacement of the H₂O ligands in cis-**Cr(H₂O)₂(C₂O₄)₂⁻** by 2,2'-dipyridyl (dipy) and 1,10-phenanthroline (phen) with formation of cis-Cr(dipy)₂(C₂O₄)₂⁻ and cis-Cr(phen)₂(C₂O₄)₂⁻, resp., was studied by spectrophotometry at 40-70°. The reaction followed 2 paths according to kobsd. = *k₀* + *k₁*[L] (*k* = rate consts., L = dipy or phen). The const. *k₀* was identical for both systems [(3-10) × 10⁻⁴ min⁻¹], whereas *k₁* was slightly higher for phen than for dipy and *k₁*/*k₀* was ~20. The activation parameters Δ*H*‡ were

11.5, 19.8, and 20.8 kcal mole⁻¹ and ΔS^\ddagger were -46.7, -10.2, and -5.0 eu for k_0 , k_1 (dipy), and k_1 (phen), resp. The results suggest a dissocn. mechanism for the L-independent path (k_0), where Cr-OH₂ bond rupture is significant in the transition state, but significant bond formation by L in the transition state of the L-dependent path (k_1). In the latter, simultaneous rupture of the two Cr-OH₂ bonds in cis position is indicated by the ΔH^\ddagger values.

ST deaquation **chromium** oxalato complex; dipyridyl deaquation **chromium** complex; phenanthroline deaquation **chromium** complex; **kinetics** deaquation **chromium** complex; mechanism deaquation **chromium** complex

IT **Kinetics** of deaquation
(of **chromium** oxalate complexes)

IT Deaquation
(of **chromium** oxalate complexes, mechanism of)

IT 66-71-7 366-18-7
RL: RCT (Reactant)
(deaquation by, of **chromium** oxalate complex, **kinetics** and mechanism of)

IT 15489-30-2
RL: RCT (Reactant)
(deaquation of, by bipyridine and phenanthroline, **kinetics** and mechanism of)

L7 ANSWER 5 OF 6 CA COPYRIGHT 2002 ACS

Full Text	Citing References
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AN 68:99114 CA

TI **Kinetics** and mechanism of the reaction between the hexaaquochromic ion and the polyphosphate ion

AU Macarovici, Constantin G.; Stanisav, Costa; Niac, Gavril

CS Univ. Cluj, Cluj, Rom.

SO Rev. Roum. Chim. (1967), 12(6), 743-50

CODEN: RRCHAX

DT Journal

LA French

CC 67 (Catalysis and Reaction Kinetics)

AB Cr(NO₃)₃ soln. was poured progressively into the polyphosphate soln., until the ppt. formed just disappeared, this moment being termed $t = 0$. With progressive **replacement** of the ligand, the soln. color changed from violet to green; the color of the reaction product was similar to that of the [Cr(H₂O)₄Cl₂]⁺. At diverse time intervals, 10 cc. samples were withdrawn, passed over a cationic exchange resin (Dowex 50 W, in H form, 50-100 mesh) column, the role of which is the retention of the [Cr(H₂O)₆]⁺⁺⁺ ions unengaged in the reaction with the polyphosphate, to allow study of the **replacement** of the 1st H₂O mol. by an anionic group of the polyphosphate macromol. The concn. of the free Cr(III) ion at different moments was detd. by [Cr(H₂O)₆]⁺⁺⁺ = $f(t)$. Absorbance was detd. at $\lambda = 370, 470, 530, \text{ and } 680 \text{ m}\mu$, and sometimes whole absorption spectra in the visible and uv were obtained. For tracing the [Cr(H₂O)₄Cl₂]⁺ spectrum, CrCl₃ was dissolved in H₂O at 3°, and the spectrum was recorded at this temp. In order to detect the [Cr(H₂O)₅Cl]⁺⁺ at max. concn., the soln. was left for 1-2 hrs. at room temp. The soln. used for kinetic measurements was boiled for 15 min., to establish the final reaction product, which was pptd. by EtOH. After drying in air, the greenish tinted substance, contg. excess polyphosphate, with respect to Cr⁺⁺⁺, was decompd. thermogravimetrically. Subtracting the large amt. of H₂O, retained <400°, left 2 plateaus, one at 500° and one at 600-700°, corresponding to elimination of 2 H₂O from the internal coordination sphere. The final product contained 4 H₂O mols. which means that in this reaction, 2 H₂O mols. can be replaced totally by anionic polyphosphate groups. The substitution of the last H₂O mols. occurs only in the molten state, when a glass is formed, which is H₂O sol. The resemblance between the spectra of the resulting polyphosphate and of the ion [Cr(H₂O)₄Cl₂]⁺ confirmed that only 2 mols.

are substituted. In both cases the 16,000 cm.⁻¹ band was cleaved into 3 bands, indicating an axial symmetry. The gradual disappearance of the initial ion [Cr(H₂O)₆]⁺⁺⁺ and the appearance of the product ion-[Cr(H₂O)₄(-PO₃-)₂]⁺ could be followed spectrophotometrically, by the diminishing absorbance at 370 and 530 mμ, and the increasing absorbance at 470 and 480 mμ. Examn. of the thermal gravimetric analysis curve demonstrated 2 stages in the reaction, with formation of [Cr(H₂O)₅(-PO₃-)]⁺⁺ in the 1st stage. The 2nd stage of the reaction was difficult to be analyzed kinetically, and hence, spectrophotometric data were collected for the 1st stage only, obtaining by calcn. the rate consts. at corresponding λ values: k₃₇₀ = 3.4 × 10⁻⁵ sec.⁻¹, and k₅₃₀ = 2.6 × 10⁻⁵. By means of the ion exchange resin, the influence of the 2nd stage was eliminated, obtaining values of 11.7 × 10⁻⁵-15.5 × 10⁻⁵ sec.⁻¹ for the 1st stage. The slope of the plots of log [Cr(H₂O)₆]⁺⁺⁺ vs. time indicated a 1st order reaction, with respect to this ion. The reaction is practically 0 order with respect to the polyphosphate ion, so that the total order of reaction was 1, indicating that substitution of the 1st H₂O mol. by the (-PO₃-) was of the SN1 type. Detns. at 40-55° allowed calcn. of the activation energy at E = 25,700 cal./mole, and of ΔS* = 2 entropy units. The 2nd stage of the reaction progressed likely by the same order and by the same mechanism, which implies that the (-PO₃-) group is fixed electrostatically in the external sphere or that a nucleophilic attack of SN1 I.P. (ion pair) type occurred, the presence of the (-PO₃-) ligand influencing solely the rate const. without modifying the mechanism.

ST CHROMIC ION WATER RELEASE; PHOSPHATE WATER SUBSTITUTION; WATER PHOSPHATE SUBSTITUTION
IT Entropy
(of activation, of substitution reactions of hexaaquachromium(3+) with polyphosphates)
IT Activation energy of substitution reactions
Kinetics of substitution reactions
(of hexaaquachromium(3+), with polyphosphates)
IT Substitution reactions
(of hexaaquachromium(3+), with polyphosphates, mechanism of)
IT Polyphosphates
RL: RCT (Reactant)
(substitution reactions of, with hexaaquachromium(3+), kinetics and mechanism of)
IT 14873-01-9
RL: RCT (Reactant)
(substitution reactions of, with polyphosphates, kinetics and mechanism of)

L7 ANSWER 6 OF 6 CA COPYRIGHT 2002 ACS

Full Text	Citing References
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AN 66:98897 CA
TI Substitution reactions of oxalato complex ions. VI. The kinetics of the anation reaction of cis-bis(oxalato)diaquochromium(III) ion with oxalate ion in aqueous solution
AU Kelm, Hartwig; Harris, Gordon McLeod
CS State Univ. of New York, Buffalo, N. Y., USA
SO Inorg. Chem. (1967), 6(4), 706-11
CODEN: INOCAJ
DT Journal
LA English
CC 67 (Catalysis and Reaction Kinetics)
AB cf. CA 57, 4294i. The complex ion cis-Cr(C₂O₄)₂(H₂O)₂- undergoes reaction in aq. soln. with either HC₂O₄- or C₂O₄²⁻ ion to give the tris(oxalato)chromium(III) complex ion. The rate-detg. step appears to be ligand water dissocn. from the diaquo complex ion, following an outersphere associative equilibration of the latter with bioxalate or oxalate ion. The observed pseudo-first-order rate const. is described by

$k = k_w [K_1 (HC_2O_4^-) / [1 + K_1 (HC_2O_4^-)] + K_2 (C_2O_4^{2-}) / [1 + K_2 (C_2O_4^{2-})]]$, where K_1 and K_2 are the assocn. consts. for bioxalate and oxalate, resp., and k_w is the rate const. of the water replacement. K_1 and K_2 have values of 0.85 and 1.9, resp., at 50° and are independent of the ionic strength, I . At 50°, k_w varies between about 10^{-3} sec.⁻¹ at $I = 0$ and about 7×10^{-3} sec.⁻¹ at $I = 2.7M$. The ionic strength effects are not altered by changes in the nature of the "inert" 1-1 electrolyte used. Temp. dependence studies indicate that the enthalpy of activation of the rate-detg. process is close to 22 kcal./mole. 24 references.

- IT Substitution reactions
 (of oxalate ions for water in cis-diaquabis(oxalato)chromate
 (1+), mechanism of)
- IT Activation energy of substitution reactions
 Kinetics of substitution reactions
 (of oxalate ions for water in cis-diaquabis(oxalato)chromate
 (1-))
- IT 15489-30-2
 RL: RCT (Reactant)
 (substitution of oxalate ions for water in, kinetics and
 mechanism of)
- IT 338-70-5, reactions 920-52-5, reactions
 RL: RCT (Reactant)
 (substitution of, for water in cis-diaquabis(oxalato)chromate
 (1-), kinetics and mechanism of)

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